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## Feature Sample

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One of Ian Bennett's earliest features, this feature about a supercharged Mini developed by NW tuning company Rally Equipe, dates from around 1972 / 1973.

The feature was researched, photographs shot in the Rally Equipe workshop and also at the Scammonden Dam hillclimb, and the feature completed within just two weeks.

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# BLOWN MINI

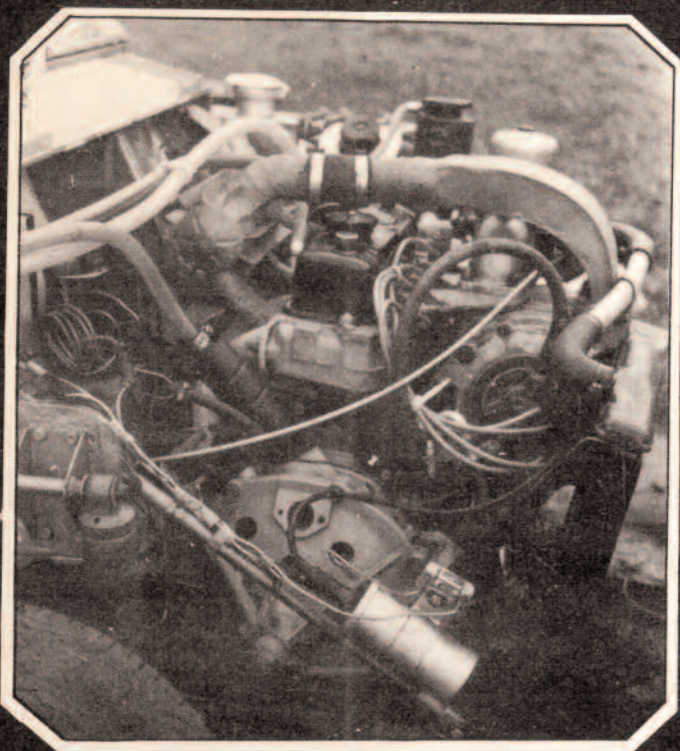
## CLIMBER

We investigate Rally Equipe's  
985cc supercharged hill climb Mini

During the last couple of seasons the Rally Equipe hill climb and sprint Mini has collected an enviable reputation as well as many class wins. Ken Tomlinson and his partner Paul Radcliffe were kind enough to invite us to see a recent meeting and be introduced to their beastie.

Hill climbs and sprints are probably one of the best ways to start in motor sport. By careful choice of class and specification, cost can be kept relatively reasonable and it's not like Hyde Park corner in the rush hour, only one car goes off at a time so the beginner doesn't have anxious moments anticipating the approach of the 'pack'.

We met Ken, Paul and Mini at the Scamondon hill climb meet. It's fairly typical of hill climb venues being about 700 yards of meandering lane. Entrance fee for such an event is £3. To be eligible to compete you have to belong to an RAC affiliated club and hold the appropriate competition licence.



As with other branches of motor sport, the Mini is still a popular choice because it is the smallest outlay to get started. It's also a relatively easy and safe car to take your first tentative competitive steps in.

The total cost of the Rally Equipe Mini is £600 in parts and the running cost per season, including three rebuilds, is £200. The figures are only rough indications of course, if you have expensive blow-ups or show an affinity for banks then the cost rockets.

Of course Rally Equipe didn't start competing with the engine spec etc exactly as it is now, it's been developed over four years of competition. But it's been worthwhile, with 5 events so far this season results are: three 1st in class, one 2nd and one 3rd.

The power output selected to keep the Mini in the 1000cc class was the 970 'S' unit, over-bored +20thou giving a total capacity of 985cc. The 1300 class wasn't considered simply on the grounds of expense, by  
*continued*





restricting themselves to the 1000cc class the duo could allocate more money to developing the engine. Forged competition pistons are used in conjunction with standard con rods.

In order to boost power at the wheels, where it matters, most of the reciprocating parts have been machined for lightness. A BLMC steel fly-wheel lightened along with driving plate diaphragm, timing gear, cam followers, push rods and rocker gear.

A BLMC 595 Super Sprint cam is currently being used whilst a specially ground cam for use with a supercharger is delivered. The cylinder head is one which Rally Equipe have developed themselves based on their experience, but you can get one the easy way, over the counter from them.

A Shorrock supercharger C142B is used which is driven via a tooth belt from the crankshaft pulley. The cost of this unit is £120; reasonable considering it gives about a 25% power boost. Carburation is by courtesy of SU, a high pressure pump maintains fuel supply through a 2in carb.

A works type long centre branch manifold has been fitted with the pipe cut off just forward of the rear wheel on the driver's side. Hearing in the driver's right ear being sacrificed for efficiency and convenience.

The transmission side is relatively straightforward using a conventional BLMC 3-speed synchromesh gearbox with straight close cut ratio gears to transmit the power via a Salisbury MkIV limited slip differential. A low 4.35 final drive has been selected and found to be the best for rapid acceleration on the short tight courses.

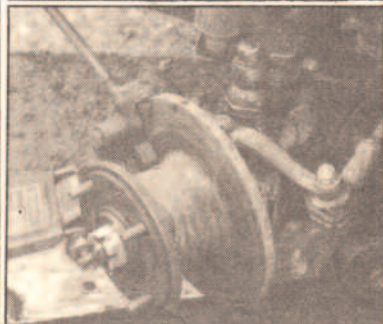
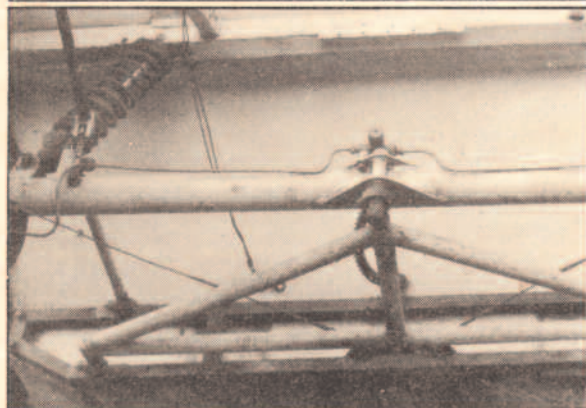
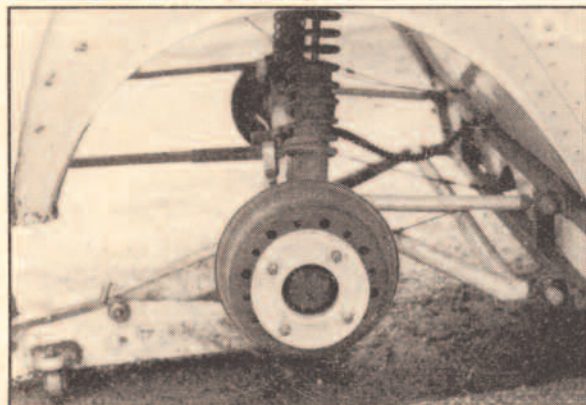
The body shell being a 1961 hasn't the advantage of being a 60lb light job. So, as with any track car, furious efforts have been made to cut down on weight. Metal bonnet and boot lid have been replaced by 50% lighter glassfibre parts. The doors are now single skinned alloy panels while the scenery is admired through perspex windows, except to the front, which is through the obligatory laminated screen.

The heavy standard sub-frame rear has been removed and replaced by a fully rose-jointed beam axle with a

rear anti-roll bar. The front sub-frame has been lightened and fitted with rose joints and modified geometry. The interior is best described as monastic. Only the bare spartan essentials have been allowed to stay.

The overall impression of the car when climbing into the cramped cockpit is of

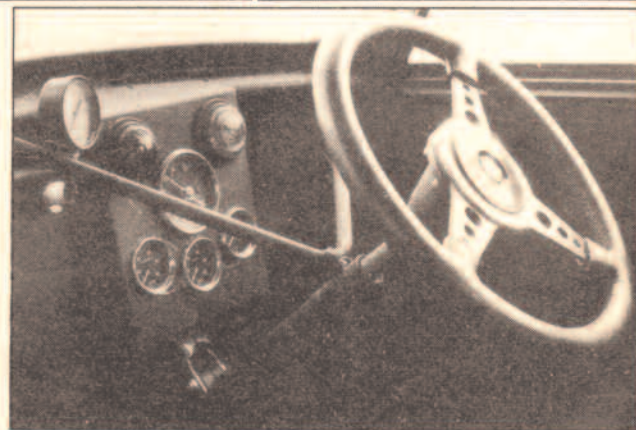
*Right: The Mini lifts its nearside rear wheel during climb; the rear end is now extremely light having specially fabricated beam axle instead of the conventional sub-frame. Below right: Where the extra oomph comes from, the Shorrocks C142B supercharger from Allards giving around 25% extra power. Below left: The rose joints, simple beam and rear suspension framework; pop rivets indicate rear weight-saving alloy sheet panelling*



fitting into a well made coat. The car feels neat and tight; a cube on wheels with positive and responsive steering.

The wild throb from the engine and exhaust quickly pumps copious quantities of adrenalin around one's system. To drive the car anywhere near the limit with any degree of safety requires a fair amount of practice. The usual under-steer is even more pronounced due, presumably, to the lsd which can lead to 'hairy' moments if taking the power off too quickly.

So if you think Rally Equipe could help you, get in touch with them at 90 Crostons Road, Bury; tel: 061 761 1178.



*Above left: Detail of rear end construction, beam pivot, anti-roll bar, couplings and brake piping to rear drums  
Above right: Detail of front disc brakes  
Bottom: Cockpit facilities are minimal, small instrument cluster, side window perspex, laminated front screen, note large warning lights for the supercharger.*